1. SDGE states that their goal to deploy installations to support DACs includes both where vehicles are housed, and also “where vehicles travel and emit tailpipe emissions” (Ch.2 at HJR-17). Please explain how SDGE determines whether a vehicle travels and emits tailpipe emissions in DACs enough to be considered as part of the goal to support DACs. For example, must a certain percentage of miles traveled by a vehicles be in DACs?

**SDG&E Response:**

SDG&E has not yet developed such metrics. SDG&E intends to develop these metrics as part of the program implementation. It is important to target emission reductions where vehicles congregate such as at distribution facilities and bus yards. And, also where vehicles frequently travel and emit tailpipe emissions such as routes traveled by transit buses.

1. The following questions are based on the scores assigned in the CalEnviroscreen 3.0 tool:
	1. Which of the census tracts that score within the top 25% on a state-wide basis are located within SDGE’s service territory?
	2. Which census tracts score within the top 25% on a SDGE service territory basis?

**SDG&E Response:**

See Excel document labeled, “NDC DR01 Q2 Response – DAC List”.

1. In SDGE Testimony chapter 2 at HJR-16, SDGE discusses how load management plans can provide benefits to the grid and to ratepayers.
	1. Provide workpapers or calculations that estimate the financial value of the likely benefits to the grid and to ratepayers if the EVs supported by the MD/HD program and V2G pilot charge at optimal times. (Ch.2 at HJR-16).
	2. Provide workpapers or calculations that estimate the cost of needed “upgrades to SDGE’s distribution system” and needed “additional generation capacity to meet increased peak conditions” that will likely be mitigated if the EVs supported by the MD/HD program and V2G pilot charge at optimal times. (Ch.2 at HJG-17).
2. **SDG&E Response:**
3. a. That analysis has not been conducted.
4. b. That analysis has not been conducted.
5. Please provide studies, analysis, reports, or similar documents that SDGE has developed to evaluate the cost-effectiveness of the MD/HD program and V2G pilot proposals on reducing greenhouse gas emissions and other forms of air pollution.

**SDG&E Response:**

A cost-effectiveness evaluation was not required nor was one conducted.

1. SDGE states that they will require EVSPs to provide extended warranties or maintenance packages, in addition to the standard warranties. (Ch.2 at HJR-4)
	1. What time period will the extended warranties or maintenance packages cover?
	2. What will be the terms, circumstances, damages, and services that the extended warranties or maintenance packages will cover?
	3. What will be the additional program costs that result from the extended warranties or maintenance packages, beyond the cost of standard warranties?

**SDG&E Response:**

a. This will be negotiated with EVSPs during the competitive solicitation process.

b. This will be negotiated with EVSPs during the competitive solicitation process.

c. This will be negotiated with EVSPs during the competitive solicitation process. However, funds have been requested through the application to cover the cost of charger/EVSE maintenance and warranty.

1. Provide worksheets or calculations, and explain the assumptions that SDGE used to determine the different amount of allowances for EVSE. (Ch.2 at HJR-4-5, Table 2)

**SDG&E Response:**

Please see confidential attachment, “Allowance Amounts – Confidential”

The information provided in response to this question is market sensitive data and has been marked confidential. It is being provided pursuant to the signed non-disclosure agreement.

1. SDGE states that there are approximately 103,000 Class 2 – Class 8 commercial vehicles in SDGE’s service territory. (Ch.2 at HJR-9). Please provide a breakdown of the approximate number of each class of commercial vehicle in SDGE’s service territory.

**SDG&E Response:**

|  |  |
| --- | --- |
| **IHS/Polk Data - Derived from Source Data** |  |
|  |  |  |  |  |
| Commercial Vehicles in SDG&E Service Territory |
| June 2016 Registrations |  |  |  |
|  |  |  |  |  |
| Class |   |  |  |  |
| 1 | 49096 |  |  |  |
| 2 | 68068 |  |  |  |
| 3 | 6837 |  |  |  |
| 4 | 4825 |  |  |  |
| 5 | 4168 |  |  |  |
| 6 | 5176 |  |  |  |
| 7 | 2899 |  |  |  |
| 8 | 11142 |  |  |  |
| TOTAL | 152211 |  |  |  |
|  |  |  |  |  |
| Class 2 - 8 | 103115 |  |  |  |

1. Please explain what is required to obtain a C-10 contractor’s license. Specifically highlight how the requirement of having a C-10 contractor’s license supports safer and more reliable EVSE installation and related work.

**SDG&E Response:**

SDG&E does not license contractors. Information about requirements for a C-10 contractor license is available at the California Department of Consumer Affairs website:

<http://www.cslb.ca.gov/Contractors/>

For any work above $500 in value in California, the law requires a contractor to have a C-10 license.

1. Please explain what is required to obtain an Electric Vehicle Infrastructure Training Program (“EVITP”) certificate. Specifically highlight how the requirement of EVITP certification supports safer and more reliable EVSE installation and related work.

**SDG&E Response:**

EVITP is a non-profit, volunteer, EV industry collaborative training program that addresses the technical requirements, safety imperatives, and performance integrity of industry partners and

Stakeholders. The pre-requisites for the EVITP training are that the electrician must be California State Certified and have completed 8,000 hours of on-the-job training before taking the EVITP training. The electrician must pass the certification exam to gain the certification.

The EVITP training process starts with an already licensed, trained and experienced electrician and then adds specific EV-related technical and safety concepts contained in the EVITP curriculum to the student’s knowledge base.

1. Please explain what is required to become a signatory to the International Brotherhood of Electrical Workers (“IBEW”). Specifically highlight how the requirement of being a signatory to the IBEW supports safer and more reliable EVSE installation and related work.

**SDG&E Response:**

Using IBEW signatory contractors, with valid C-10 licenses who are using EVITP certified electricians provides safer and more reliable EVSE installations due to their experience and training processes.

An IBEW signatory contractor, with a valid C-10 license, is someone who has chosen to sign the IBEW Local Union collective bargaining agreement and carries the appropriate license from the California Contractors State Licensing Board.

An IBEW signatory contractor will hire the appropriate workforce for the given job by requesting electrician employees from the Local Union hiring hall (in San Diego it is IBEW Local Union 569). This facilitates the contractor’s ability to obtain qualified electricians because the Local Union maintains a list of electricians with the appropriate training and qualifications who are available for work.

By requiring that installations be performed by IBEW signatory contractors, with valid C-10 licenses and using EVITP certified electricians, SDG&E ensures that it will have an adequate workforce of skilled electricians who are capable of safely performing the work.

1. In order to support local economies, does the MD/HD program or V2G pilot give any preference to participants that procure EV’s from local manufacturing businesses, such as the ones mentioned in Ch.2 at HJR-18? If not, why not?

**SDG&E Response:**

No. SDG&E does not intend to limit the program in this manner.

1. SDGE estimates that MD/HD program costs would be substantially the same under a 100% utility owned EVSE model, and a 50% customer owned EVSE model. (Ch.2 Table 4 vs Table 5). What accounts for the $17.2 million O&M cost for customer owned EVSE?

**SDG&E Response:**

SDG&E understands this question to refer to the Table 5 line-item titled “Charger/EVSE – Allowance – Customer Owned”. The program is designed to give customers choice between customer ownership and utility ownership in a financial agnostic manner. In the Table 5 scenario, half of the charger/EVSE allowance is in the “Charger/EVSE – Allowance – Customer Owned” line.

Table 4 shows approximately $34M in “Charger/EVSE – Utility Owned” and $0 in “Charger/EVSE – Allowance – Customer Owned”.

Table 5 splits the allowance 50% / 50% between “Charger/EVSE – Utility Owned” and “Charger/EVSE – Allowance – Customer Owned” resulting in approximately $17M per line.

1. Regarding the V2G pilot and the sale of energy to the CAISO market:
	1. Who will manage the sale of energy to the CAISO market?
	2. Who will get the funds generated from the sale of energy to the CAISO market?
	3. What is the estimated amount of revenue that will be generated from selling energy to the CAISO market? Provide workpapers and explain assumptions in calculating how this estimate was derived.

**SDG&E Response:**

a. SDG&E will manage the sale of energy to the CAISO.

b. Funds generated from the sale of energy will be recorded in the balancing account for the cost recovery of the V2G pilot.

c. The pilot will help determine the revenue amount.

1. For how long will the selected school district have to commit to use the buses and charging stations? (Ch.3 at DMG-10)

**SDG&E Response:**

A commitment to vehicle usage beyond the data collection phase will be determined in conjunction with the school district through the selection process. A longer commitment will be a factor in determining which school district is selected.

1. SDGE states that they will “make an effort” to select a school district in a DAC for the V2G pilot. (Ch.3 at DMG-9). Explain the nature of this “effort”. Specifically, explain under what circumstances the V2G pilot would not be located in a DAC.

**SDG&E Response:**

SDG&E’s preference is to deploy the pilot in a DAC. Efforts include presenting the pilot proposal to SDG&E’s K-12 collaborative to identify interested schools and also to proactively discuss with schools in the region. If a suitable school in a DAC is not identified due to factors such as lack of interest, lack of ability to pay for the school buses or major required upgrades then SDG&E may deploy in a non-DAC.

1. In the V2G pilot, how did SDGE develop their $450,000 figure for contribution to help fund the purchase of school buses? How much did SDGE determine is the average cost of EV school buses?

**SDG&E Response:**

Electric school buses cost approximately $400k to $450k. Due to the budgetary pressures facing school districts, SDG&E’s proposal includes approximately 10% of the cost of the school bus being funded through ratepayers for the pilot.

1. In the V2G pilot, how did SDGE develop their $100,000 figure for funding the cost of electricity used during the one year pilot? How much did SDGE determine as the estimated cost of electricity that will be used during the one year pilot by the EV school buses in the V2G pilot?

**SDG&E Response:**

Using SDG&E’s current rates, it was estimated that an electric school bus charging and then discharging for both vehicle operations and V2G operations would result in an annual bill of approximately $110k. It is assumed that the entire 130 kWh of each bus battery will be discharged and charged each day.

Due to the pilot nature of this project and all charging energy being billed at retail rates, SDG&E wanted to remove this cost barrier to the school, which might discourage school districts from participating in the pilot.

1. SDGE states that the illustrative charging and discharging schedule in Ch.3 Figure 3 “needs operational verification”. (Ch.3 at DMG-5)
	1. Has any school bus company verified the illustrative schedule?
	2. Has any school bus company provided suggestions to help develop or revise the schedule?
2. **SDG&E Response:**
3. a. SDG&E assumes that this question is referring to page DMG-8. SDG&E has not discussed this assumption with school bus companies.
4. b. Please see response to 18a.